

Montana and the Sky

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MONTANA AERONAUTICS DIVISION

December, 1981

Helena Air Traffic Control Tower

The Helena tower is a non-radar approach controlled tower, which last year worked 73,000 operations, averaging 200 per day. In Helena, the weather rarely is below minimums; therefore, the airport has had a limited number of days they could not operate due to weather conditions. The traffic includes a mixture of private, commercial, air taxis, commuter airlines, and the Montana National Guard.

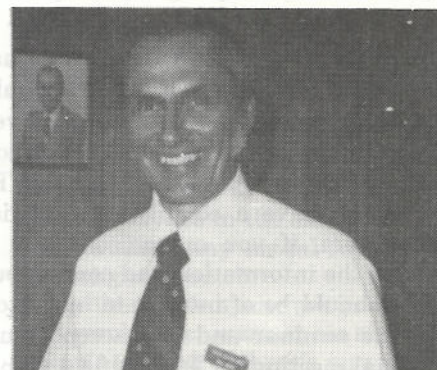
The tower is unique in that all of the six controllers are pilots, with ratings ranging from commercial to commercial-multi-engine-instrument instructor, and total pilot time of more than 18,000 hours. The controller staff consists of Tower Chief Will Mavis, Denney Bridges, Ralph Ennis, Bruce Jones, Tom Kulhman, and Dave Robinson.

Will Mavis says air traffic control is a very responsible job, yet a fun and exciting job with something different every day. He indicated he sees a lot of good landings, fair landings, and some "attacks on the airport." "You see a friend screw up a good landing and the next time you fly, you find yourself not doing any better, or maybe a little bit worse. Guess if you can taxi in to the ramp, it wasn't too bad of a landing."

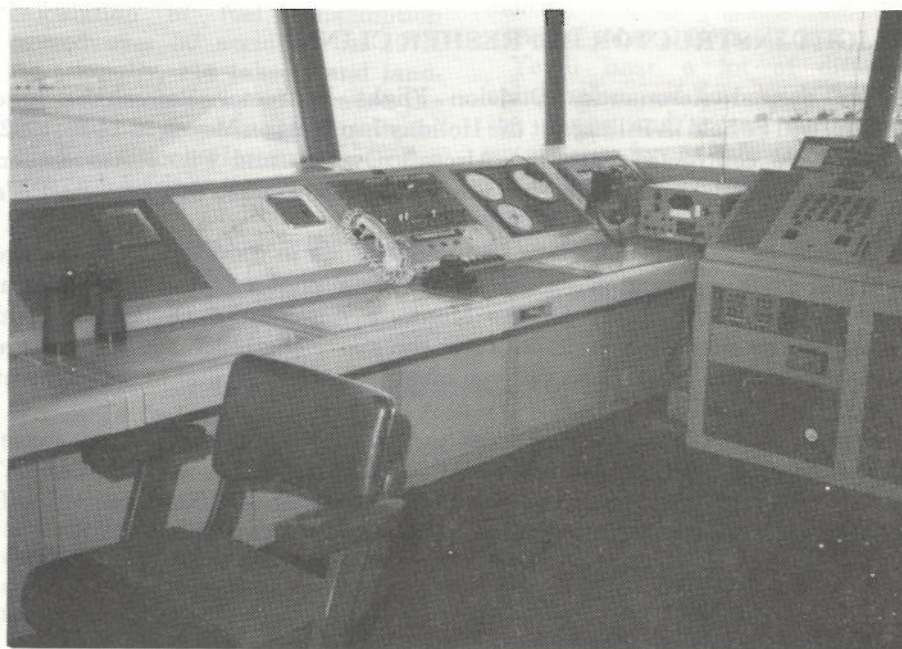
Will, who is the local FAA Coordinator and active in the Montana Pilots Association, has worked commercial and military traffic overseas and on the east coast, but says

he really enjoys working in Montana. He states Montana pilots are an enjoyable group to work with, and an advantage to working in a smaller tower is that he has the opportunity to meet most of the pilots and air crews he works with.

As for the Chief's job, Will says people on the Helena Airport are excellent to work with. "All in all, I really like my job. If I live to be a hundred, I'll never get tired of watching airplanes."



Helena Tower Chief Will Mavis.



Helena Tower.



Administrator's Column

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AVIATION MECHANICS REFRESHER SEMINAR

I have been busy planning our annual Aviation Mechanics Refresher Seminar, to be held in Helena February 16-17-18. The response from industry has been good so far, as there are only a couple of slots remaining to be filled.

Our office will be mailing out flyers to all FAA licensed airframe and/or powerplant mechanics and inspectors before the first of the year. Neither our office nor the two Montana FAA Flight Standards District Offices (FSDOs) have a complete list of licensed A & P Mechanics in Montana. Therefore, if you or someone you know does not receive a flyer, please share the information and contact our office for an application form.

It should be of interest to inspectors that both FSDOs will be represented at the seminar and will accept your attendance in lieu of having another special meeting for IA certificate renewals.

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FLIGHT INSTRUCTOR REFRESHER CLINIC

Our annual Aeronautics Division Flight Instructor Refresher Clinic (FIRC) will be held in Billings at the Holiday Inn West on March 13-14-15, 1982.

We have contracted with the Aircraft Owners and Pilots Association (AOPA) to conduct our clinic this year, so do not confuse this with AOPA's advertising, as it is one and the same clinic.

We will be mailing out flyers and applications in January, so if you are a flight instructor and a registered Montana pilot residing in Montana, you are eligible to apply for the Montana Aeronautics Division stipend to attend the clinic. If you do not meet the above eligibility criteria, you are still welcome to attend. However, you must register with, and make payment directly to, the AOPA.

It should be of particular interest to you (or I should say your spouse) that this year, for the first time, we will be offering a "Pinch Hitter Course" which will run concurrent with the FIRC, and each FIRC participant will be eligible for free registration of one person in the Pinch Hitter Course.

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Creative Press

Forecast: Snowy and Colder

Cold temperatures + snow + ice + high winds + turbulence = winter. And you'd better be prepared if you want a safe, enjoyable flying season. Your preparation should include a critical review of proper pilot technique, attitude, weather knowledge, and aircraft and engine winter operating procedures. The following tips will help you prepare for winter flying.

THINK SNOW!

To pilots, snow is more than just that white stuff you ski on or build forts with—or shovel out of the driveway. Snow can cause aircraft operational problems, not the least of them during landings and takeoffs. Aircraft acceleration will certainly be less than normal, so takeoffs and landings on all but plowed runways require skill and planning.

- **Taxiing:** After engine start, you need a lot of engine power to get even a very light aircraft moving. And once it's moving, if you attempt to taxi in more than 2-3 inches of dry powder snow, you'll need continued high engine power. That often results in strain on the landing gear components, and engine overheating due to the lack of cooling airflow.

Sometimes, in order to get from your tie-down spot to a plowed taxiway, you must negotiate small snow banks. Attempt this dubious practice only with extreme caution. Many pilots trying to negotiate a snow bank at high power have found out how easily an aircraft can nose over. Or how easy it is to lose directional control when the aircraft breaks free of the snow and suddenly lurches forward.

Taxiing through water or slush can cause problems after takeoff, too. The slush is often thrown into the wheel wells and onto the underside of control surfaces, where it refreezes on climbout. This interferes with the operation of landing gear, brakes, wing flaps, and elevators. Avoiding snowy, slushy runways is the only solution to these taxiing problems.

- **Landings:** Landing on a snow-covered runway can be tricky indeed.

Snow on surfaces often affects depth perception by obscuring visual cues. That makes proper approach roundouts difficult. Also, you can't estimate snow depth from the air. What's more, many airports don't plow their runways to their full length and width after a snowfall. And even on plowed surfaces, the chances of striking a windrow and losing directional control are great. Prior knowledge of runway conditions and your best soft-field landing technique are your best remedy.

- **Snow showers:** Be extra cautious when weather forecasts for your flight route warn of the possibility of snow shower activity, even if the forecast is "brief" and "local." Snow showers all too often result in IFR flight conditions that are not reported by local weather stations. In-flight visibility can rapidly be reduced to zero in snow showers. And studies have shown that it takes only minutes in IFR conditions for a pilot who's not instrument proficient to lose control of the aircraft.

WIND AND TURBULENCE

Too many pilots depend exclusively on winds-aloft reports when computing trip fuel. As a result, miscalculation of fuel consumption caused over 30 accidents in 1979. Additionally, 114 takeoff and landing accidents occurred because the pilot did not properly compensate for wind conditions. Here are some rules of thumb for operating in winter wind and turbulence conditions:

- Always overestimate the velocity of wind at altitude. Do not rely completely on reports or forecasts.

- Frequently check ground speed against fuel consumption.

- Always keep an adequate supply of reserve fuel on board, even if it requires an unscheduled landing at an intermediate airport to refuel.

- In a crosswind landing, use the slip method of alignment with the centerline of the runway. If you cannot stay lined up using this method, you cannot land safely.

- In addition to crosswinds, always take into account runway width and

surface condition.

- Do not rely completely on reports of wind direction and/or velocity from Unicom stations at uncontrolled fields. Always check the windsock.

- In high wind and turbulence, be prepared for abrupt downdrafts near both ends of the runway—especially in hilly terrain.

AIRFRAME ICE

In winter, ice and clouds are nearly synonymous. You're going to see very few days with cloudless skies, so you're going to see a lot of ice. Since airframe ice accounts for approximately 50 aircraft accidents each winter, ask yourself these questions before flying into an area of possibly icing conditions:

- Is the cloud layer thin enough to get through quickly and safely, even if it contains ice?

- Is my airplane capable of high enough performance to permit rapid climb out of ice areas?

- Do I have enough room and visibility to make a VFR flight? Or at least to get to VFR conditions to avoid any ice in the clouds?

- Are there any actual reports of ice along my route?

- Is there a temperature inversion that would offer warmer air above?

Don't take off if there's any snow, ice, or frost on the wings of your aircraft. Preheat the plane or use a deicer.

THAT OLD DEVIL FROST

You'll hear a lot of different opinions on just how much frost on the wings and/or tail surfaces is acceptable for a safe takeoff and climb. But there's only one correct answer: None! During the period 1978-79, ice, frost, or snow on the

(Continued on page 6)



Merry Christmas

from the

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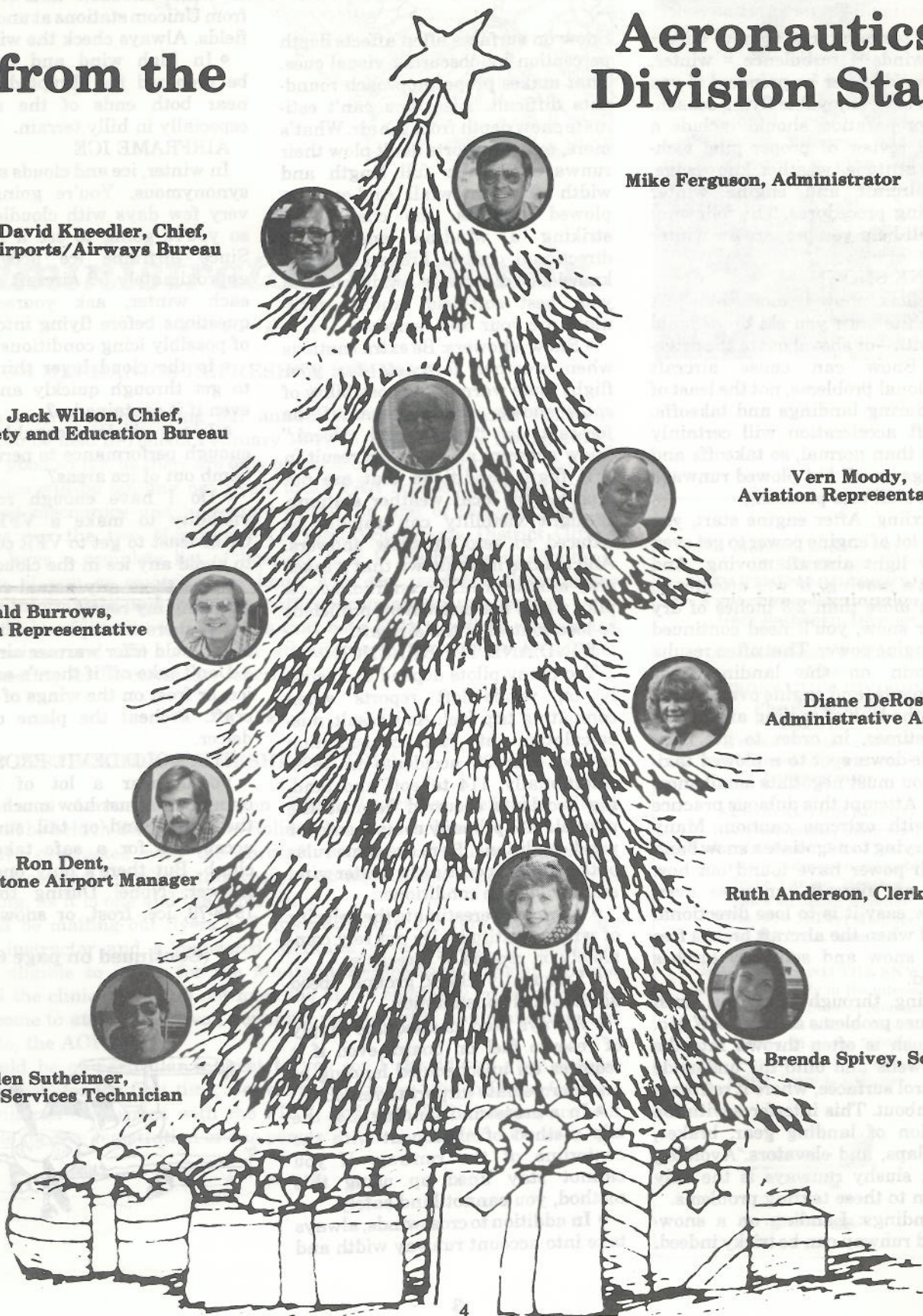
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Fuel Starvation

The National Transportation Safety Board warns general aviation pilots of an accident cause it terms "chronic and usually inexcusable"—fuel starvation.

The Safety Board cited as an example the near-fatal crash of a Cessna 401 only a half-mile short of its landing runway. Both engines had failed, with three of its fuel tanks dry and the fourth not selected.

Investigation showed that the left main and left auxiliary fuel tanks were empty, and the left engine fuel selector was positioned to fuel it from the left main tank. The right main tank had 10 to 15 gallons of fuel, but the fuel selector was found between the setting positions for the left main and the right auxiliary, which was empty. There was no evidence of mechanical malfunction of either engine.

The Safety Board determined that the accident had been caused by the pilot's mismanagement of fuel, "inadequate preflight preparation and/or planning," and lack of familiarity with the aircraft. Other causal factors cited were fuel starvation and inattention to the fuel supply.

The Board noted that fuel mismanagement was cited as a causal factor in about seven percent of all 1978 accidents—a proportion that remains fairly constant from year to year.

"The mistakes that cause these accidents, popularly generalized as 'pilot error,' can and do vary widely—from the simplest acts of inattention or forgetfulness to the more complex problems of judgment in flight planning and monitoring," the Board said.

For most accidents, there are effective preventive measures:

1. Properly planning the trip.
2. Conservatively weighing forecast weather and actual conditions.
3. Carefully pre-flighting the aircraft.
4. Knowing the fuel system and the correct procedures for operating it.
5. Logging fuel consumption accurately.

Each of these can help to reduce the needless annual toll of fuel starvation accidents.

Glacier Park International Airport Unicom Frequency

The Aeronautics Division has been notified that there is still some confusion as to the correct unicom frequency for the Glacier Park International Airport.

In May, 1981, the frequency was changed from 122.8 to the new frequency of 123.0.

Please remember to use 123.0 for this airport.

Canadian War Planes Refuel in Helena



Ivor Oberholtzer, Banff, refuels his P-51 after returning from air show in Harlingen, Texas.



Joe McGoldrich, Edmonton, took the B-25 to the Texas air show and then on to Calgary for another air show.



The above logo is copyrighted by David Andrews Supplies.

Forecast: Snowy and Colder . . .

(Continued from page 3)

wings or tail surfaces was the cause of 26 aircraft accidents: Seven of the aircraft were totally destroyed; there were 14 fatalities.

The effects of a hard frost on the wings of an aircraft are much more subtle than the effects of ice. Frost increases roughness of the surface texture of the upper wing and may cause up to a 10 percent increase in stall speed. You may also find that you need additional speed to produce the lift necessary to become airborne. Once you are airborne, frost can cause an insufficient margin of airspeed-above-stall, and gusts, or even turning the aircraft, could result in a stall.

A MATTER OF PREPARATION

Safe winter flying is largely a matter of planning and preparation. The points made in this article are by no means all you need to know. But we hope they will motivate you to delve further into the many operational aspects of winter flying before the snows begin.

Make certain that you are proficient in crosswind landings and takeoffs, operations in turbulence, and so on. Review carefully the section of your aircraft owners handbook concerning cold-weather operation. And refamiliarize yourself with winter weather conditions, so you'll be "weather wise."

Aviation Monthly

Calendar

January 28 to 30—Montana Aviation Trades Association Convention, Holiday Inn West, Billings.

February 16 to 18—Aviation Mechanics Refresher Course, Helena.

March 13 to 15—Montana Aeronautics Flight Instructor Refresher Course by AOPA, Billings.

July 4—Air Show, Laurel. Sponsored by Laurel JC's and Billings Broadcasters.

Illusions of Reality

Tim Linn of Bozeman recently, amidst weeks of mixed rain and snow, sat down at his typewriter and committed his thoughts of changing seasons to print. We would like to share these thoughts with our readership:

ILLUSIONS OF REALITY

*Tis a time of changing seasons.
A'n if I had a way with words
I would caution you....*

Tis the season where Mother Nature is not merciful to airplane drivers with poor judgment. Her rain clouds seem to reach out a'n beckon those into her icing conditions. Lure them in between cloud layers, or into valleys with a cloud overhang a'n hidden floors of fog. Then quickly close the sky behind them....

A'n if I had a way with words, I'd try'n share as a search pilot, the helplessness one feels as you try to encourage the family of a missing aircraft at the end of the first week. Knowing survival is doubtful in early winter's sub-zero weather.

Thought of your observer's wife, daughter and twin boys flash through your mind, the weather is kinda marginal for search up Tom Miner Basin. Mountain tops obscured, ice crystals fill the air. Your engine quite rough with carb ice. You save as much altitude heading down a'n out, with thoughts of the best possible forced landing in the hidden unknown blanket of fresh snow....

T'was on the lee side of the ridge of Wyoming's Cloud Peak that Mother Nature challenged our efforts with winds exceeding 50 knots at altitude.

After gettin' punished several hours, thoughts reflect on aircraft ability, as the o'l Birdog

drops a wing, a'n you catch it with opposite rudder. You slow her down abit more, cause you ain't never heard her wings squeak and squawk so much before. You want to finish searching your grids, to find your target; with hops of sustaining life...Realizing your own pilot ability, you ask your Creator, "Come fly with me."

Tis a time of changing seasons. A'n if I had a way with words, I'd encourage you not to try and toy with Mother Nature's element called weather....

That through flight briefings, a'n preflighting of aircraft, eliminate the unknown. Flight plans a'n ELTs don't insure you against a forced landing, but is a factor to help if Mother Nature has you out there!

Know your aircraft systems a'n emergency procedures blind-folded, whether you drive a turbine IFR, or a cub VFR; it eliminates a simple emergency from compounding....

By turning back at one's first thoughts of it, you've already made up your mind....

By realizing, that waiting out weather a day or two, there will be a tomorrow!

A'n if you convinced yourself that you can run weather, that you know the country a'n have made it before, fly alone, don't take anyone with you cause you're playing with borrowed time....

In his letter to Mike Ferguson, Tim encourages Mike and the Aeronautics staff to "Keep up the good work! Those days when all your efforts seem to be a losing battle, remember us small airplane drivers appreciate what you have accomplished for us in Montana."

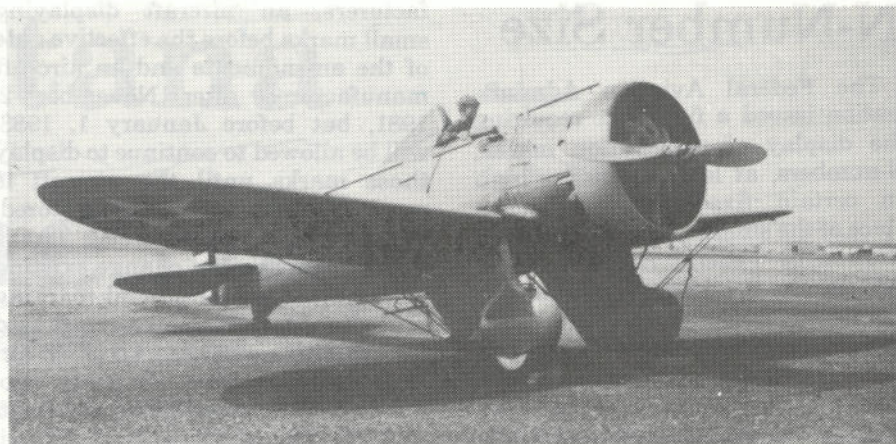
Thank you, Tim.

Airstrip Identified

For those who recognized the Valley Industrial Park Airstrip in Glasgow in the November issue of Montana and the Sky, congratulations!

This paved runway is 13,500 feet by 300 feet, with 1,000 foot overruns at each end.

Now, can you name this month's antique aircraft?



Can you identify this aircraft?

Air Traffic Coordinator

The Aircraft Owners and Pilots Association has asked the Federal Aviation Administration to officially change the name of air traffic "controller" to air traffic "coordinator."

John L. Baker, president of AOPA, said the name "controller" has caused confusion in the public's mind about the workings of the air traffic management system. "The American public has labored under the great misconception that someone, other than pilots, actually controls aircraft," said Baker. "Certainly, the attitude of many former Air Traffic Control Specialists served to enhance that incorrect theory and mislead the public." Baker said the time has come to put into proper perspective the professional roles and responsibilities of pilots and Air Traffic Control Specialists.

The final responsibility for controlling the aircraft, Baker said, lies with the pilot. "Professionals now called 'controllers' in actuality coordinate traffic movements, and some 80% of the flights operate without this coordination with the pilot having total responsibility."

The AOPA president said the work of air traffic coordinators is more diverse than the name controller implies. "Traffic under Visual Flight Rules often is coordinated with other traffic operating under Instrument Flight Rules," Baker said.

The AOPA petition was sent to FAA Administrator J. Lynn Helms.

CONGRATULATIONS!

FAA Certificates

Issued

Recently to Pilots

PRIVATE

Rittinger, Douglas W., Canada
Rose, Thomas D., Stevensville
Ellis, William R., Missoula
Bechtold, David J., Butte
Harris, Charles E., Lakeside
Stoneman, Darwon R.,
West Glacier

Frasch, Randy D., Missoula
Hogan, Patrick M., Bozeman
Booher, Barbara E., Townsend
Johnson, Douglas B., Cut Bank
Wilske, Carl M., Livingston
Stephens, Mark D., Dutton
Koski, Paul J., Glasgow
Kummerfeldt, Kurt L., Nashua
Findley, Richard L., Billings
Nayematsu, Gale A., Billings
Walker, Enoch I., Billings
Koziol, Leonard L., Billings
Leininger, Lynn R., Crosby,
North Dakota

INSTRUCTOR

Newby, Albert C., Belgrade
(Renew)
Pashley, Walter A., Jr., Missoula.
(Renew)

Sonju, Norman M., Shelby
(Add FI-AMEL)
Steck, Larry E., Helena
(Add FI-AMEL)

Hayes, Roger T., Great Falls
(Add FI-AMEL)

Harper, Gregory T., Red Lodge
(BGI)

Hawk, Herbert R., Billings
(Add MEL)

Brand, Joseph E., Great Falls

COMMERCIAL

Nelson, Harold G., Canada
(CAM & SEL)
Rasmussen, Arlee A., Williston,
North Dakota (Add CAMEL)
Ladd, David E., Helena
(Add CAMEL)
Lohse, William F., Carter
(Add CAMEL)

Markle, Richard J., Glasgow
Williams, Bobby L., Billings
Balock, Debra K., Billings
Muri, Randal P., Miles City
(Add MEL)

Johnson, Donald D., Billings
(Add MEL)

Brand, Joseph E., Great Falls

INSTRUMENT

Morey, Nat, West Glacier
(Add IRA)
Strange, Thomas A., Butte
(Add IRA)
Mort, Robert L., Jr., Great Falls
(Add IRA)

ATP

McIver, Robert D., Billings

PILOT PROFICIENCY AWARD PROGRAM

Krenzer, Lester R., Shepherd
(Phase I)
Kozial, Leonard, Billings (Phase I)
Overby, Richard J., Billings
(Phase I)
Schultz, Paul, Billings (Phase II)

N-Number Size

The Federal Aviation Administration issued a final rule requiring the display of registration marks, N-numbers, at least 12 inches high on certain fixed-wing aircraft in place of the smaller marks previously allowed by Federal Aviation Regulations. The FAA ruled these amendments are needed to provide better visual identification of those aircraft. The rule is intended to improve air traffic flow at airports, discourage violations, and improve enforcement of Federal Aviation Regulations regarding low-flying aircraft.

facturers, an aircraft displaying small marks before the effective date of the amendments and an aircraft manufactured after November 2, 1981, but before January 1, 1983, will be allowed to continue to display those marks until the aircraft is repainted or the marks are restored, repainted, or changed. These amendments do not change existing rules on the use of special marking procedures for: (1) small aircraft used for exhibition purposes, (2) small aircraft built at least 30 years ago, (3) unusually configured aircraft, and (4) aircraft issued an experimental certificate for operating as either exhibition or amateur-built aircraft.

Effective Date: November 2, 1981.

Pilot Aids

Montana Aeronautics Chart	\$2.00
Montana Airport Directory	\$2.00
Annual Subscription to Montana and the Sky	\$2.00

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MEMBER

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